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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/657,229	09/09/2003	Alex Horng	HORN3165/EM	8847
23364	7590	12/02/2004	EXAMINER	
BACON & THOMAS, PLLC 625 SLATERS LANE FOURTH FLOOR ALEXANDRIA, VA 22314				MCLOUD, RENATA D
ART UNIT		PAPER NUMBER		
		2837		

DATE MAILED: 12/02/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b> 10/657,229	<b>Applicant(s)</b> HORNG ET AL.
	<b>Examiner</b> Renata McCloud	<b>Art Unit</b> 2837

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

1)  Responsive to communication(s) filed on 09 September 2003.

2a)  This action is **FINAL**.                            2b)  This action is non-final.

3)  Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

4)  Claim(s) 1-8 is/are pending in the application.  
4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.  
5)  Claim(s) \_\_\_\_\_ is/are allowed.  
6)  Claim(s) 1-8 is/are rejected.  
7)  Claim(s) \_\_\_\_\_ is/are objected to.  
8)  Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

9)  The specification is objected to by the Examiner.

10)  The drawing(s) filed on 09 September 2003 is/are: a)  accepted or b)  objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)  The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)  Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a)  All    b)  Some \* c)  None of:  
1.  Certified copies of the priority documents have been received.  
2.  Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
3.  Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

1)  Notice of References Cited (PTO-892)  
2)  Notice of Draftsperson's Patent Drawing Review (PTO-948)  
3)  Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_  
4)  Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_  
5)  Notice of Informal Patent Application (PTO-152)  
6)  Other: \_\_\_\_\_

## DETAILED ACTION

### ***Claim Rejections - 35 USC § 102***

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 1, 2, 7 are rejected under 35 U.S.C. 102(b) as being anticipated by Hollenbeck et al (US 5557182).

**Claim 1:** a speed control circuit comprising a fan motor drive (Fig. 1: 104/107) connected to a power source (Fig. 1: 109); an overcurrent circuit (Fig. 1: 126) connected to the drive circuit to detect a rotational speed and an over current when the speed is abnormal and an over current has occurred, the over current circuit controls a current at a low voltage (Col. 14:36-48, Col. 16:4-6) and a speed control circuit (Fig. 1:128/7: 130) connected to the over current circuit to send a speed signal to it; wherein the speed control circuit is able to generate PWM signals for controlling the rotational speed (Col. 16:4-8).

**Claim 2:** the over current circuit includes an over current detector, a rotational detector, and a current limiting circuit (Col. 16: 4-8).

**Claim 7:** the speed control circuit (Fig. 7: 130) is between an overcurrent detection circuit (Fig. 1:126) and a rotational detector (Fig. 7: PWMOUT/Fig. 1:124; Col. 11:54-60).

***Claim Rejections - 35 USC § 103***

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 3-6 is rejected under 35 U.S.C. 103(a) as being unpatentable over Hollenbeck et al as applied to claim 1 above, and further in view of Huynh et al (US 6040668).

**Claim 3:** Hollenbeck et al teach the limitations of claim 1. Referring to claim 3, they teach the controller provides protection against excessive heat (Col. 2:38-46; Col. 15:35-53) and the speed control circuit comprises a pwm circuit (Fig. 1:128) they do not teach the speed control circuit includes a thermal sensor. Huynh et al teach a speed control circuit (Fig. 1: 40, 32,42,38, 22; Col. 4:6-28) having a pwm circuit (Fig. 1: 22) and a thermal sensor (Fig. 1: 40). It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the apparatus taught by Hollenbeck to use a thermal sensor as taught by Huynh et al. The advantage of this would be protection from overheating.

**Claim 4:** Hollenbeck et al and Huynh et al teach the limitations of claim 3. Referring to claim 4, Hollenbeck et al teach the PWM circuit consists of a PWM generator and a multi-function control circuit (Fig. 1: 124/Fig. 7:124).

**Claim 6:** Hollenbeck et al and Huynh et al teach the limitations of claim 3.

Referring to claim 6, Huynh et al teach a thermistor (Fig. 1: 40).

5. Claim 8 is rejected under 35 U.S.C. 103(a) as being unpatentable over Hollenbeck et al as applied to claim 1 above, and further in view of Olsen et al (US 5910716).

**Claim 8:** Hollenbeck et al teach the limitations of claim 1. Referring to claim 8, they do not teach a hall circuit and an inverter. Olsen teaches a fan motor drive with a hall circuit (Fig. 9:144), an inverter (Fig. 9:140) and a motor coil driver (Fig. 9:142). It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the apparatus taught by Hollenbeck et al to include components as taught by Olsen et al. The advantage of this would be improved energy consumption.

### ***Conclusion***

6. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. They are: Hardt (US 6611117), Takagi et al (US 6244061), Young et al (US 5491978), Oomura et al (US 6153993), Hirata (US 6377008), Erdman (US 4459519), and Mohan et al (US 4874072).

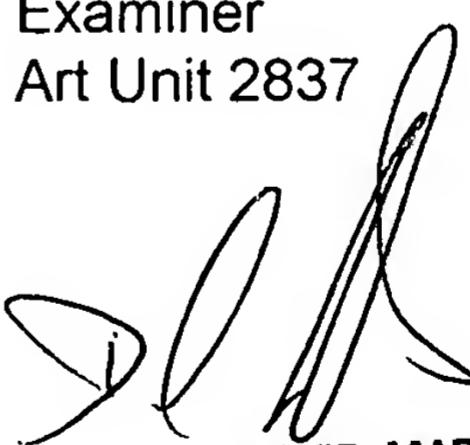
Any inquiry concerning this communication or earlier communications from the examiner should be directed to Renata McCloud whose telephone number is (571) 272-2069. The examiner can normally be reached on Mon.- Fri. from 8 am - 5pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Martin can be reached on (571) 272-2800 ext. 4. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Renata McCloud  
Examiner  
Art Unit 2837

RDM



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